

1638

RECEIVED  
DEC 21 2000  
TECH CENTER 1600/2900  
ENTERED

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/545,072A

DATE: 12/08/2000  
TIME: 10:03:32

Input Set : A:\ES.txt  
Output Set: N:\CRF3\12082000\I545072A.raw

4 <110> APPLICANT: Yu Lin  
 5 Lin Sun  
 6 Long V. Nguyen  
 7 Howard M. Goodman  
 9 <120> TITLE OF INVENTION: MODIFICATION OF PLANT STORAGE RESERVES  
 12 <130> FILE REFERENCE: 00786/368002  
 14 <140> CURRENT APPLICATION NUMBER: US 09/545,072A  
 15 <141> CURRENT FILING DATE: 2000-04-07  
 17 <150> PRIOR APPLICATION NUMBER: 60/128,651  
 18 <151> PRIOR FILING DATE: 1999-04-08  
 20 <160> NUMBER OF SEQ ID NOS: 9  
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 1483  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Arabidopsis thaliana  
 29 <400> SEQUENCE: 1  
 30 atttgcacca gaaagagaaaa gaaaatcaga gattgattta acgtgaatgg aattttgttg 60  
 31 ttcccaaat tcttctgaga aatagcaaag ttcaagttttg ttctctctca tctgaagctc 120  
 32 aatggaaact tataaqaact gggitggqag aaatagagag tagtcaaat cctttggatc 180  
 33 ctttgccaaac ggatggacat qgctttttcc tgaaqagtttt totgcttcaag agattggacc 240  
 34 agaaggcatac acggctttt tggcatatt cacaacyata aatgaacaca taattggaaaa 300  
 35 tgcctccaaaca cctcggtggcc atgttggatc ttccggaaat gatccatccc tttcttatcc 360  
 36 actactcatac gccatctca aggatttggaa aactgtttgtg aactgtggcag ctaaacactt 420  
 37 ctatggagac aaaaaatggaa actacattat tcttcaactgaa gatctgaaagg ctgtcatttag 480  
 38 gtttgccttg ttccggataa gatgtttttt caaggaggggg aaacacctaa 540  
 39 tgaggagaaa gatctcaacc aatcccgatc gcaaaaatggaa gctggtaatt cgggttagaaa 600  
 40 tctcgccct catggcttgc gaaacccaaa tcatcataat ccatggaaact tggaggacg 660  
 41 ggcgtatgtt gcttttaagt catttggtaa gaatgcaaga aacaacaat ctcttacccc 720  
 42 cggttggctc cagaagaattt aacatctcaga aacggatttata ggcctccaa tgcataaagg 780  
 43 gaggcgaaga acgtatgtcc agtacttac tgaaagggt gttaatggag cgttgc 840  
 44 gatttgcgttggat ttccatttaca taacggagacc gtcatttttc tcagaaaaata 900  
 45 tggaglccga tcttggatc ctgggtat atcgctttct gtggacacac tggggatggg 960  
 46 tcttcttgc aattegaagt qgtggggaga gaagagcaag caaqtccatt tctcaggacc 1020  
 47 tgaaaaatgtt gacgttggaga gacgaaaaat gatatggca ttgttacccca tgagagatcc 1080  
 48 attcttcacc aagtacacaa ggcagaagttt gggaaatgttcaaaagaaagc tggaaclaat 1140  
 49 tccatttgcate ggatttctca caqagaatgttgc ttggaggqag ctcagtccac 1200  
 50 gtacacttac atatcggttca cgttgaggta aggttttttac ttatggtttata tgcacccgg 1260  
 51 aagaatatttgc catttggggaaatgtttagatccaa aaggcttca cagatttctt 1320  
 52 agggaaatgtt ttcaggcttgc tgatggaaat ttgttttttgc aacaggta gagaacataa 1380  
 53 ccatgacatc acgtatgttgc agagataaagc ttctctatgtt cttaaaggaaat ggaccgatac 1440  
 54 gaataaaaaacaa acgtatcttgc aagataaaaaaa aaaaaaaaaaaa aat 1483  
 56 <210> SEQ ID NO: 2  
 57 <211> LENGTH: 367  
 58 <212> TYPE: PRT  
 59 <213> ORGANISM: Arabidopsis thaliana  
 61 <400> SEQUENCE: 2

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/545,072A

DATE: 12/08/2000  
TIME: 10:03:32

Input Set : A:\ES.txt  
Output Set: N:\CRF3\12082000\I545072A.raw

62 Met Glu Ala Tyr Lys Gln Trp Val Trp Arg Asn Arg Glu Tyr Val Gln  
63 1 5 10 15  
64 Ser Phe Gly Ser Phe Ala Asn Gly Leu Thr Trp Leu Leu Pro Glu Lys  
65 20 25 30  
66 Phe Ser Ala Ser Glu Ile Gly Pro Glu Ala Val Thr Ala Phe Leu Gly  
67 35 40 45  
68 Ile Phe Thr Thr Ile Asn Glu His Ile Ile Glu Asn Ala Pro Thr Pro  
69 50 55 60  
70 Arg Gly His Val Gly Ser Ser Gly Asn Asp Pro Ser Leu Ser Tyr Pro  
71 65 70 75 80  
72 Leu Leu Ile Ala Ile Leu Lys Asp Leu Glu Thr Val Val Glu Val Ala  
73 85 90 95  
74 Ala Glu His Phe Tyr Gly Asp Lys Lys Trp Asn Tyr Ile Ile Leu Thr  
75 100 105 110  
76 Glu Ala Met Lys Ala Val Ile Arg Leu Ala Leu Phe Arg Asn Ser Gly  
77 115 120 125  
78 Tyr Lys Met Leu Leu Gln Gly Glu Thr Pro Asn Glu Glu Lys Asp  
79 130 135 140  
80 Ser Asn Gln Ser Glu Ser Gln Asn Arg Ala Gly Asn Ser Gly Arg Asn  
81 145 150 155 160  
82 Leu Gly Pro His Gly Leu Gly Asn Gln Asn His His Asn Pro Trp Asn  
83 165 170 175  
84 Leu Glu Gly Arg Ala Met Ser Ala Leu Ser Ser Phe Gly Gln Asn Ala  
85 180 185 190  
86 Arg Thr Thr Thr Ser Ser Thr Pro Gly Trp Ser Arg Arg Ile Gln His  
87 195 200 205  
88 Gln Gln Ala Val Ile Glu Pro Pro Met Ile Lys Glu Arg Arg Arg Thr  
89 210 215 220  
90 Met Ser Gln Leu Leu Thr Glu Lys Gly Val Asn Gly Ala Leu Phe Ala  
91 225 230 235 240  
92 Ile Gly Glu Val Leu Tyr Ile Thr Arg Pro Leu Ile Tyr Val Leu Phe  
93 245 250 255  
94 Ile Arg Lys Tyr Gly Val Arg Ser Trp Ile Pro Trp Ala Ile Ser Leu  
95 260 265 270  
96 Ser Val Asp Thr Leu Gly Met Gly Leu Leu Ala Asn Ser Lys Trp Trp  
97 275 280 285  
98 Gly Glu Lys Ser Lys Gln Val His Phe Ser Gly Pro Glu Lys Asp Glu  
99 290 295 300  
100 Leu Arg Arg Arg Lys Leu Ile Trp Ala Leu Tyr Leu Met Arg Asp Pro  
101 305 310 315 320  
102 Phe Phe Thr Lys Tyr Thr Arg Gln Lys Leu Glu Ser Ser Gln Lys Lys  
103 325 330 335  
104 Leu Glu Leu Ile Pro Leu Ile Gly Phe Leu Thr Glu Lys Ile Val Glu  
105 340 345 350  
106 Leu Leu Glu Gly Ala Gln Ser Arg Tyr Thr Tyr Ile Ser Gly Ser  
107 355 360 365  
110 <210> SEQ ID NO: 3  
111 <211> LENGTH: 21  
112 <212> TYPE: DNA

RAW SEQUENCE LISTING DATE: 12/08/2000  
 PATENT APPLICATION: US/09/545,072A TIME: 10:03:32

Input Set : A:\ES.txt  
 Output Set: N:\CRF3\12082000\I545072A.raw

113 <213> ORGANISM: Artificial Sequence  
 115 <220> FEATURE:  
 116 <223> OTHER INFORMATION: Primer  
 118 <400> SEQUENCE: 3  
 119 atcagagatt gatttaacgt a 21.  
 121 <210> SEQ ID NO: 4  
 122 <211> LENGTH: 21  
 123 <212> TYPE: DNA  
 124 <213> ORGANISM: Artificial Sequence  
 126 <220> FEATURE:  
 127 <223> OTHER INFORMATION: Primer  
 129 <400> SEQUENCE: 4 21  
 130 acgatttca attatgtgtt c  
 132 <210> SEQ ID NO: 5  
 133 <211> LENGTH: 19  
 134 <212> TYPE: DNA  
 135 <213> ORGANISM: Artificial Sequence  
 137 <220> FEATURE:  
 138 <223> OTHER INFORMATION: Primer  
 140 <400> SEQUENCE: 5 19  
 141 cgcttggtcg gtcatttcg  
 143 <210> SEQ ID NO: 6  
 144 <211> LENGTH: 391  
 145 <212> TYPE: PRT  
 146 <213> ORGANISM: Yarrowia lipolytica  
 148 <400> SEQUENCE: 6  
 149 Met Thr Asp Lys Leu Val Lys Val Met Gln Lys Lys Ser Ala Pro  
 150 1 5 10 15  
 151 Gln Thr Trp Leu Asp Ser Tyr Asp Lys Phe Leu Val Arg Asn Ala Ala  
 152 20 25 30  
 153 Ser Ile Gly Ser Ile Glu Ser Thr Leu Arg Thr Val Ser Tyr Val Leu  
 154 35 40 45  
 155 Pro Gly Arg Phe Asn Asp Val Glu Ile Ala Thr Glu Thr Leu Tyr Ala  
 156 50 55 60  
 157 Val Leu Asn Val Leu Gly Ile Tyr His Asp Thr Ile Ile Ala Arg Ala  
 158 65 70 75 80  
 159 Val Ala Ala Ser Pro Asn Ala Ala Ala Val Tyr Arg Pro Ser Pro His  
 160 85 90 95  
 161 Asn Arg Tyr Thr Asp Trp Phe Ile Lys Asn Arg Lys Gly Tyr Lys Tyr  
 162 100 105 110  
 163 Ala Ser Arg Ala Val Thr Phe Val Lys Phe Gly Glu Leu Val Ala Glu  
 164 115 120 125  
 165 Met Val Ala Lys Lys Asn Gly Gly Glu Met Ala Arg Trp Lys Cys Ile  
 166 130 135 140  
 167 Ile Gly Ile Glu Gly Ile Lys Ala Gly Leu Arg Ile Tyr Met Leu Gly  
 168 145 150 155 160  
 169 Ser Thr Leu Tyr Gln Pro Leu Cys Thr Thr Pro Tyr Pro Asp Arg Glu  
 170 165 170 175  
 171 Val Thr Gly Glu Leu Leu Glu Thr Ile Cys Arg Asp Glu Gly Glu Leu

RAW SEQUENCE LISTING DATE: 12/08/2000  
 PATENT APPLICATION: US/09/545,072A TIME: 10:03:32

Input Set : A:\ES.txt  
 Output Set: N:\CRF3\12082000\I545072A.raw

172	180	185	190
173	Asp Ile Glu Lys Gly Leu Met Asp Pro Gln Trp Lys Met Pro Arg Thr	200	205
174	195	210	220
175	Gly Arg Thr Ile Pro Glu Ile Ala Pro Thr Asn Val Glu Gly Tyr Leu	215	225
176	210	225	235
177	Leu Thr Lys Val Leu Arg Ser Glu Asp Val Asp Arg Pro Tyr Asn Leu	230	240
178	225	245	255
179	Leu Ser Arg Leu Asp Asn Trp Gly Val Val Ala Glu Leu Leu Ser Ile	245	255
180	260	265	270
181	Leu Arg Pro Leu Ile Tyr Ala Cys Leu Leu Phe Arg Gln His Val Asn	265	270
182	290	295	300
183	Lys Thr Val Pro Ala Ser Thr Lys Ser Lys Phe Pro Phe Leu Asn Ser	305	310
184	275	280	285
185	Pro Trp Ala Pro Trp Ile Ile Gly Leu Val Ile Glu Ala Leu Ser Arg	315	320
186	305	325	330
187	Lys Met Met Gly Ser Trp Leu Leu Arg Gln Arg Gln Ser Gly Lys Thr	325	335
188	305	340	345
189	Pro Thr Ala Leu Asp Gln Met Glu Val Lys Gly Arg Thr Asn Leu Leu	345	350
190	340	355	365
191	Gly Trp Trp Leu Phe Arg Gly Glu Phe Tyr Gln Ala Tyr Thr Arg Pro	355	365
192	370	375	380
193	Leu Leu Tyr Ser Ile Val Ala Arg Leu Glu Lys Ile Pro Gly Leu Gly	375	380
194	385	390	395
195	Leu Phe Gly Ala Leu Ile Ser Asp Tyr Leu Tyr Leu Phe Asp Arg Tyr	395	400
196	390	395	400
197	Tyr Phe Thr Ala Ser Thr Leu	400	405
198	385	390	395
201	<210> SEQ ID NO: 7	19	
202	<211> LENGTH: 19		
203	<212> TYPE: DNA		
204	<213> ORGANISM: Artificial Sequence		
206	<220> FEATURE:		
207	<223> OTHER INFORMATION: Primer		
209	<400> SEQUENCE: 7	19	
210	ggcaatatic ttccgttgc		
212	<210> SEQ ID NO: 8		
213	<211> LENGTH: 23		
214	<212> TYPE: DNA		
215	<213> ORGANISM: Artificial Sequence		
217	<220> FEATURE:		
218	<223> OTHER INFORMATION: Primer		
220	<400> SEQUENCE: 8	23	
221	aaaaatggaa ctacattatt ctc		
223	<210> SEQ ID NO: 9		
224	<211> LENGTH: 22		
225	<212> TYPE: DNA		
226	<213> ORGANISM: Artificial Sequence		
228	<220> FEATURE:		
229	<223> OTHER INFORMATION: Primer		

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/545,072A

DATE: 12/08/2000  
TIME: 10:03:32

Input Set : A:\ES.txt  
Output Set: N:\CRF3\12082000\I545072A.raw

231 <221> NAME/KEY: variation  
232 <222> LOCATION: (1)...(22)  
233 <223> OTHER INFORMATION: Where h is a, c, or t/u; not g.  
235 <400> SEQUENCE: 9  
236 ataagtaaaa cgcttaacct hc

RECEIVED  
DEC 21 2000  
TECH CENTER 1600/2800  
22

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/545,072A  
DATE: 12/08/2000  
TIME: 10:03:33  
Input Set : A:\ES.txt  
Output Set: N:\CRF3\12082000\I545072A.raw